WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2005CO115B

Title: Colorado's Evolving Irrigated Agriculture: Economic Accounting Impact Analysis

Project Type: Research

Focus Categories: Economics, Agriculture

Keywords: Arkansas River, Republican River, Rio Grand River, South Platte River

Start Date: 03/01/2005

End Date: 02/28/2006

Federal Funds: $13,884

Non-Federal Matching Funds: $0

Congressional District: 4

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Abstract

Colorado's Evolving Irrigated Agriculture: Economic Accounting and Impact Analysis

Colorado's irrigated agriculture is evolving as water is transferred from farming to urban uses. In the next twenty-five years, Colorado's population is expected to exceed 7 million people and an additional 632,000 acre-feet of water will be needed in cities to support their needs. An estimated 300,000 irrigated acres will "dry up" as water transfers occur. Similarly, groundwater irrigation will be reduced as new augmentation rules take effect, as Colorado meets its interstate compact obligations, and as the Ogallala aquifer continues its "planned depletion".

Colorado's crop production has thrived with its water resources and, in turn, crop production has supported commercial livestock, meat packing and dairy industries. Each of these primary agricultural industries has encouraged economic development directly, through the purchase of inputs, and indirectly, through the wages and salaries of employees. Given the finite nature of water supplies, an important question is how the economic base will change as irrigated agriculture's scope is reduced. Importantly, the

impacts may be quite different in Colorado's surface water basins because of the diversity in the basin's economic base and heterogeneous cropping patterns.

A rigorous economic accounting will approximate the economic impacts of reduced irrigated acres. Analysis will be focused on four basins (Arkansas, Republican, Rio Grande, South Platte). Specific objectives include: (1) Establishing economic demographics for each basin including population trends, housing demographics, labor and jobs by sector, local taxes, education and agriculture. (2) Developing a social accounting matrix (SAM) for each basin that represents the financial interactions between the basin industries. (3) Using the four SAM's, impact analysis will approximate the short-term economic affects of reduced irrigated acreage.